

II. Amendments to the Claims

Applicants introduce new claims 39 and 40. Set forth below is a complete listing of all of the claims of the application with the status of each claim noted parenthetically in accordance with 37 C.F.R. Section 1.121. This listing of claims will replace all prior revisions and listings of claims in the application.

Listing of Claims

Claims 1–20. (Canceled)

Claim 21. (Previously Presented) A method for grafting an unsaturated monomer onto a polysaccharide comprising the steps of: (1) forming a mixture comprised of an unsaturated monomer and a water soluble or water dispersible polysaccharide; (2) drying the mixture and (3) irradiating the mixture with an amount of electron beam radiation sufficient to form an unsaturated monomer-water soluble or water dispersible polysaccharide graft copolymer, wherein the graft copolymer is depolymerized to a molecular weight lower than the molecular weight of the ungrafted polysaccharide, and the polysaccharide in the copolymer has a molecular weight of no more than 700,000 Daltons.

Claim 22. (Previously Presented) The method of claim 21, wherein the unsaturated monomer is a vinyl monomer having a functional group.

Claim 23. (Previously Presented) The method of claim 21, wherein the polysaccharide is selected from the group consisting of guar, cationic guar, nonionic guar, locust bean gum, tara gum, amylose, amylopectin, xanthan and xanthan gum.

Claim 24. (Previously Presented) The method of claim 22, wherein the polysaccharide is guar.

Claim 25. (Previously Presented) The method of claim 22, wherein the polysaccharide is a cellulose containing at least one functional group.

Claim 26. (Previously Presented) The method of claim 22, wherein the functional group is a carboxylate, a phosphonate, or a sulfonate group.

Claim 27. (Previously Presented) The method of claim 22, wherein the vinyl monomer is methacrylamidopropyltrimethylammonium chloride.

Claim 28. (Previously Presented) The method of claim 22, wherein the functional group is a quaternary ammonium group.

Claims 29–38. (Canceled)

Claim 39. (New) A method for grafting an unsaturated monomer onto a polysaccharide comprising the steps of: (1) forming a mixture comprised of an unsaturated monomer and a water soluble or water dispersible polysaccharide; (2) drying the mixture in the air and (3) irradiating the mixture with an amount of electron beam radiation sufficient to form an unsaturated monomer-water soluble or water dispersible polysaccharide graft copolymer, wherein the graft copolymer is depolymerized to a molecular weight lower than the molecular weight of the ungrafted polysaccharide, and the polysaccharide in the copolymer has a molecular weight of no more than 700,000 Daltons.

Claim 40. (New) A method for grafting an unsaturated monomer onto a polysaccharide comprising the steps of: (1) forming a mixture comprised of an unsaturated monomer and a water soluble or water dispersible polysaccharide; (2) drying the mixture in a vacuum and (3) irradiating the mixture with an amount of electron beam radiation sufficient to form an unsaturated monomer-water soluble or water dispersible polysaccharide graft copolymer, wherein the graft copolymer is depolymerized to a molecular weight lower than the molecular weight of the ungrafted polysaccharide, and the polysaccharide in the copolymer has a molecular weight of no more than 700,000 Daltons.